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Dynamic susceptibility of itinerant ferromagnets in the ordered state[1] MATTHEW VANNETTE, SERGEY BUD'KO, PAUL CANFIELD, RUSLAN PROZOROV, Iowa State University, Dept of Physics & Astronomy and Ames Laboratory — Measurements of radio-frequency dynamic susceptibility of ferromagnets exhibit striking differences between local moment and itinerant systems. Whereas local moment systems show a sharp peak at the Curie temperature (T_c) which evolves to higher temperatures and lower amplitudes with applied dc magnetic field, itinerant systems show a broad maximum at temperatures well below T_c. The itinerant system's maximum is suppressed in amplitude and shifts to lower temperatures with applied dc magnetic field. Existing Stoner or spin fluctuations theories derive strictly zero-field susceptibility and we propose a generalization of these models to incorporate the effect of applied dc field. A good agreement between our semi-phenomenological approach and experimental results obtained on several generally accepted itinerant materials with various T_c's is presented.

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[X] Prefer Oral Session
[ ] Prefer Poster Session

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